## LISTING OF CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. **(Currently amended)** A functional TGF-β family fusion protein, comprising:

a functionalizing peptide ~~portion~~ tag of no more than about 100 amino acids for detecting, quantifying or providing a specific additional function to the fusion protein; and

a mature TGF-ß family protein, or ~~a variant or fragment thereof~~ an amino acid sequence that has ~~having~~ at least ~~85%~~95% sequence identity with the mature TGF-ß family protein and which retains TGF-β family protein activity;

wherein the functionalizing peptide tag is inserted between a pair of adjacent residues between about residues 1 and 22 of the mature portion of the TGF-β family protein;

and wherein the activity of the TGF-β fusion protein is reduced by no more than 50% as compared to the mature TGF-β family protein.

2. **(Original)** A functional TGF-ß family protein dimer formed by the association of two of the fusion proteins of claim 1.

3. **(Original)** The dimer of claim 2, wherein the dimer is a homodimer.

4. **(Currently amended)** The dimer of claim 2, made by a process comprising:

expressing a nucleic acid molecule in a eukaryotic cell to produce a monomer fusion protein, wherein the nucleic acid molecule comprises:

a sequence encoding the functionalizing peptide ~~portion~~tag;

a sequence encoding the mature TGF-β family protein; and

a sequence encoding a pro-region (latency associated peptide) of the TGF-β family protein, located to provide targeting and/or assembly and/or processing of the fusion protein encoded for by the nucleic acid.

5. **(Original)** The dimer of claim 4, wherein the process further comprises:

associating two monomer fusion proteins to form the dimer.

6. (**Currently amended**) The dimer of claim 4, wherein the sequence encoding the pro-region is located upstream to both the sequence encoding the functionalizing peptide ~~portion~~ tag and the sequence encoding the mature TGF-β family protein.

7. (**Original**) The dimer of claim 4, wherein the process further comprises:
cleaving the pro-region (latency associated peptide) from at least one fusion monomer.

8. (**Original**) The dimer of claim 4, wherein the process further comprises:
cleaving the pro-region (latency associated peptide) from both fusion monomers.

9. (**Currently amended**) The fusion protein of claim 1, wherein the functionalizing peptide ~~portion~~ tag is ~~at the N-terminus~~ inserted downstream of residue five of the mature TGF-β family protein.

10. (**Original**) The fusion protein of claim 9, wherein the mature TGF-β family protein is TGF-β1.

11. (**Currently amended**) The fusion protein of claim 10, where the protein comprises the amino acid sequence as in ~~SEQ ID NO: 11, SEQ ID NO: 15, the mature portion of SEQ ID NO: 33, the mature portion of SEQ ID NO: 35, the mature portion of SEQ ID NO: 39,~~ the mature portion of SEQ ID NO: 37~~, or conservative substitutions thereof~~.

12. - 17. (**Canceled**)

18. (**Original**) The fusion protein of claim 1, further comprising a pro-region (latency associated peptide) of the TGF-β family protein located to provide targeting and/or assembly and/or processing of the fusion protein.

19. **(Original)** The fusion protein of claim 18, wherein the pro-region is located at the N-terminal region of the fusion protein.

20. and 21. **(Canceled)**

22. **(Original)** The fusion protein of claim 1, wherein the mature TGF-β family protein is TGF-β1.

23. - 27. **(Canceled)**

28. **(Currently amended)** The fusion protein of claim ~~25~~1, wherein the tag is an epitope tag, a purification tag, or an identification tag.

29. **(Currently amended)** The fusion protein of claim ~~25~~1, wherein the tag comprises a FLAG tag, a c-myc tag, a 6x His tag, a HA tag, a Tat tag, a T7 tag, a GFP peptide, or a GST peptide.

30. **(Currently amended)** An isolated nucleic acid molecule encoding a fusion protein of claim 1~~, or a conservative substitution thereof~~.

31. **(Currently amended)** The isolated nucleic acid molecule of claim 30, comprising a sequence ~~selected from the group consisting of:~~comprising

~~(a) nucleic acid residues 835 to 1197 of SEQ ID NO: 8;~~

~~(b) SEQ ID NO: 10;~~

~~(c) residues 835 to 1197 of SEQ ID NO: 12;~~

~~(d) SEQ ID NO: 14;~~

~~(e) residues 845-1222 of SEQ ID NO: 32;~~

~~(f) residues 849-1226 of SEQ ID NO: 34;~~

~~(g)~~ residues 845-1234 of SEQ ID NO: 36~~;~~

~~(h) residues 845-1234 of SEQ ID NO: 38;~~

~~and~~

~~(i) conservative variants of any one of (a) through (h).~~

32. (**Original**) The isolated nucleic acid molecule of claim 30, further comprising a sequence encoding a TGF-β pro-region.

33. (**Currently amended**) The isolated nucleic acid molecule of claim ~~30~~32, comprising a sequence ~~selected from the group consisting of:~~comprising

~~(a) SEQ ID NO: 8;~~

~~(b) SEQ ID NO: 12;~~

~~(c) SEQ ID NO: 32;~~

~~(d) SEQ ID NO: 34;~~

~~(e)~~ SEQ ID NO: 36~~; and~~

~~(f) SEQ ID NO: 38~~.

34. (**Original**) A recombinant nucleic acid molecule comprising a promoter sequence operably linked to the isolated nucleic acid molecule according to claim 30.

35. (**Original**) A transgenic cell comprising a recombinant nucleic acid molecule according to claim 34.

36. (**Original**) The transgenic cell of claim 35, wherein the cell is a bacterial cell or an eukaryotic cell.

37. (**Original**) The eukaryotic cell of claim 36, wherein the cell is a yeast cell or a mammalian cell.

38-48. (**Canceled**).

49. (**Currently amended**) A purified functional TGF-β fusion protein, comprising an amino acid sequence ~~selected from the group consisting of:~~comprising

~~(a) SEQ ID NO: 9;~~

~~(b) SEQ ID NO: 11;~~

~~(c) SEQ ID NO: 13;~~

~~(d) SEQ ID NO: 15;~~

~~(e) SEQ ID NO: 33;~~

~~(f) SEQ ID NO: 35;~~

~~(g)~~ SEQ ID NO: 37~~;~~

~~(h) SEQ ID NO: 39;~~

~~(i) sequences having 85% sequence identity to any one of (a) through (h);~~

~~and~~

~~(j) conservative substitutions thereof~~.

50. (**Original**) An isolated nucleic acid molecule encoding the protein of claim 49.

51. (**Original**) A recombinant nucleic acid molecule comprising a promoter sequence operably linked to the nucleic acid molecule of claim 50.

52. (**Original**) A transgenic cell comprising the recombinant nucleic acid molecule according to claim 51.

53. - 56. (**Canceled**).

57. (**New**) The functional TGF-ß family fusion protein of claim 1, wherein the mature TGF-ß family protein is a mammalian TGF-ß isoform.

58. (**New**) A TGF-β family fusion protein, comprising:

a N-terminal region consisting of an amino acid sequence of a pro-region (latency associated peptide) of a TGF-β family protein,

a functionalizing peptide tag of no more than about 100 amino acids; and

an amino acid sequence consisting of the mature portion of the TGF-β family protein;

wherein the functionalizing peptide tag is inserted between a pair of adjacent residues between about residues 1 and 22 of the mature portion of the TGF-β family protein;

and wherein the portion of the fusion protein comprising the mature portion of the TGF-β family protein and the functionalized peptide tag has a TGF-β family protein activity that is reduced by no more than 50% as compared to the mature TGF-β family protein alone.